

Amendments to the Specification:

Please replace the following paragraphs as indicated.

[0003] Organoclays with a wide range of surface wetting characteristics have been described in the literature. It is well known that surface treatment can be used to render hydrophilic clay surfaces compatible with solvents of decreasing polarity such as alcohols, ethers, aromatic and aliphatic hydrocarbons, and the like. Conventional hydrophilic organoclays have been prepared by onium ion exchange using polyethyer substituted **quaternary quaternary** ammonium compounds. These organoclays are dispersible in water-based systems and can be used for rheology control in products such as latex paints. Other methods for preparing organoclays displaying surface properties ranging from hydrophilic to hydrophobic have been produced by surface modification of the clay through polymer adsorption rather than onium ion exchange. For example, clay/polymer intercalates have been produced through direct intercalation of clays with either polymer melts, as described in United States Patent No. 5,955,535, or by contacting a clay slurry with a polymer solution followed by drying. These organoclays can be used in forming composites with thermoplastic or thermosetting resins, however they suffer from the drawback that the efficiency of exfoliation can be low due to the potential for cross linking of the clay platelets by the surface-modifying polymer.

[0017] Briefly, the process used to produce the organoclays of this invention includes the following general steps. Adsorption of the polymeric hydrotrope on the surface of the clay is achieved by dispersing the clay in a suitable solvent, such as water, dispersing and/or dissolving the polymeric hydrotrope in the solvent and allowing the polymer to adsorb on the surface of the dispersed clay. The clay is also subject to ion exchange with a cationic surfactant, which is usually a quaternary amine. Ion exchange either takes place after polymer adsorption has occurred or as polymer adsorption is occurring. In this latter embodiment, the clay is exposed to a solution containing a mixture of the polymeric hydrotrope and the cationic surfactant. The organoclay can then be separated by filtration, washed with water to remove excess salt resulting **form** **from** the cation exchange, and dried to a desired solvent content. The resulting organoclay

may be dispersed into a compatible solvent including desired organic solvents or used in the preparation of nanocomposites.

[0038] In a typical process, a clay is dispersed in water at a solids concentration of 1 to 5 weight percent, preferably about 1 to 3 weight percent. Optionally, application of heat or high shear can be used to ensure that the individual clay platelets are completely hydrated and exfoliated. Once the clay is dispersed, a nonionic polymeric hydrotrope is added to the dispersion. The amount of hydrotrope added should be limited to an amount sufficient to form a sub-monomolecular layer the hydrotrope on the clay. In one embodiment the hydrotrope is added in an amount from 0.5 to about 10 weight percent preferably 0.5 to 5 weight percent, relative to the weight of the dispersed clay. A cationic surfactant is then added, preferably at a temperature of about 50 to 70°C. Examples of cationic surfactants which are suitable to produce organophilic clays include quaternary ammonium salts, preferably having at least one R-chain of ten carbons or greater, phosphonium salts, and sulfonium salts. Preferably, the cationic surfactant loading will be between about 90 and about 110 ~~milliequivalents~~ milliequivalents per 100 g clay. To produce organoclays readily dispersible in nonaqueous systems, the cation exchange is carried out to the extent necessary to produce a hydrophobic surface compatible with the desired solvent system. Typically, this requires 50 to 100 percent conversion of the cation exchange capacity of the clay but may be as high as 120 percent.